Name: _____ Date: _____

Mathematical Processes
REASONING and PROVING - *LOOK FORS*

REASONING and PROVING: ***Students will develop and apply reason skills (e.g., recognition of relationships, generalization through inductive reasoning, use of counter-examples) to make mathematical conjectures, assess conjectures and justify conclusions, and plan and construct organized mathematical arguments.***	
Hypothesizing/making conjectures	Combine given information with intuition to make a reasoned guess when prompted
	Refine hypothesis as evidence is gathered
	Make a reasoned guess as to: • the answer • the strategy likely to lead to a solution • where in the process and/or why an attempted solution failed
Making inferences, conclusions, and justifications	Use/adjust models and logic to infer/conclude
	Reason inductively by considering specific cases and identifying patterns
	Analyse and evaluate the mathematical thinking and strategies of others, orally or in writing
	Present arguments in a logical/organized manner
	Include enough detail and clarity that the reader/listener can follow their thinking
	Try multiple examples. For example: • make multiple trials using a GSP or graphing calculator sketch • make systematic trials using CAS • pencil and paper
	Look for a case that does not work (i.e., a counterexample)
	Recognize the characteristics of an acceptable argument/proof
	Follow and understand an argument presented by peers